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REMARKS

Claims 1-3 and 10-21 are pending in this application. Claims 1-3, 11 and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tshushima in view of Eggleton and further in view of Fukushima and further in view of Patterson. Claims 13 and 16-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fukushima in view of Eggleton and further in view of Patterson. Claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over Fukushima in view of Eggleton and further in view of Patterson and further in view of Chaudhuri. Claims 20 and 21 were rejected under 35 U.S.C. §102(e) as being anticipated by Patterson. Claims 1, 3, 12 and 13 are currently amended. Reconsideration is respectfully requested.

The presently claimed invention distinguishes the cited references because dynamically adjustable amplitude impairment compensation is applied to individual channels based at least in part on output carrier power. As discussed in the previous Amendment, and as discussed in the specification as originally filed at page 1, line 23-page 2, line 6, it would be desirable to have a photonic node that functions as a gateway for interfacing different vendor networks. However, a problem with interfacing different vendor networks is that wavelength *amplitude* requirements may differ. The presently claimed invention helps provide a gateway photonic node by providing the capability to dynamically adjust *amplitude* of individual wavelengths without translating to the electrical domain. For example, as described in the specification at page 10, lines 5-19:

these signals ... pass through a per wavelength/per granular element compensation block 111. This block removes/reduces the optical impairments that have randomly accumulated in the individual optical carriers (or will accumulate before they exit the switch). There are many more contributors to individual (per wavelength) variations in amplitude than there are for chromatic dispersion (since chromatic dispersion primarily occurs in the optical fiber, where all of the wavelengths are subject to a more-or-less similar degradation) and *hence per wavelength amplitude compensation is of prime interest.*

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However, since in a long system, errors will build up in the way the bulk compensators treat non-spectrally flat chromatic dispersion, and we will mix signals from different chromatically dispersive (and differently compensated) paths, a need for per-wavelength chromatic dispersion is expected to arise, especially in ultra long haul systems. (emphasis added)

In each rejection the OA relies on Patterson for disclosing individual channel dispersion compensation. Indeed, at col. 9, lines 51-53 Patterson states that "gratings are placed into the demultiplexed paths, allowing dynamic dispersion adjustment for individual channels." However, that is not what is recited in the claims. For example, claim 20 distinguishes Patterson both individually and in the cited combination by reciting "at least one optical compensation element operative to *dynamically control amplitude* of a single one of the plurality of wavelengths based at least in-part on amplitude of an output carrier associated with the single wavelength." (emphasis added). Claims 1 and 13 have been amended to emphasize that amplitude is individually and dynamically controlled, rather than dispersion as taught by Patterson (although individual dispersion compensation may be combined with individual amplitude compensation as recited in claims 3, 18, 19 and 21). For the reasons stated above, withdrawal of the rejections of claims 1, 13 and 20 is respectfully requested.

Claims 2-3, 10-12, 14-19, and 21 are dependent claims which further distinguish the presently claimed invention, and which are allowable for the same reasons stated with regard to their respective base claims. Withdrawal of the rejections of claims 2-3, 10-12, 14-19, and 21 is therefore requested.

The Office objected to the drawings. New formal drawings are submitted herewith.

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Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Applicants' Attorney at 978-264-4001 (X305) so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date


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